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HIVOX®
Innovations for Better Living
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purecare 982

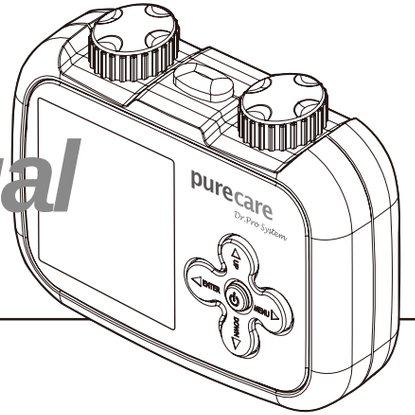
HIVOX®

Advanced Pro.

# Digital Electric Stimulator

# User's Manual

**Please read this User's Manual thoroughly before using your blood glucose meter.**




TENS EMS MASSAGE

SUPER 2 CHANNELS
Handheld, Advanced

Dr.Pro System

Dear Customer,

Thank you very much for your support on HIVOX's products. HIVOX products stand for high quality, reliable performance, and most of all, Innovations for Better Living.

Please read this instruction manual carefully prior to use and keep it for later reference.

## *CONTENT*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# Chapter 1 Introduction

*With HIVOX's PureCare PL-982, you can find this product provides almost everything you might need for daily usage.*

*There are 3 different modes for you to find the best program which fits your needs as following.*

*TENS, transcutaneous electrical nerve stimulation,* means electrical stimulation of nerves through the skin. TENS is recognized as a clinically proven, effective, non-medication method of treating pain from certain causes. It is free from side-effects when used properly, and can also thereby be used as a simple means of self-treatment. The pain-alleviating or suppressing effect is also achieved by preventing pain from being passed on into nerve fibers (above all through high-frequency pulses) and increasing the secretion of the body's own endorphins which reduce awareness of pain through their effect on the central nervous system. The method is scientifically underpinned and medically approved.

Any symptoms indicating TENS application must be clarified with the doctor in charge of your treatment. The latter will also give you information on the respective benefits of TENS self-treatment.

### *TENS is clinically tested and approved with the following applications:*

- Back pain, particularly also lumbar and cervical spine problems
- Joint pain (e.g. knee joint, hip joint, shoulder)
- Neuralgia
- Headaches
- Women's period pains
- Pain after injuries to musculoskeletal system
- Pain with circulatory problems
- Chronic pain through various causes



*EMS, Electrical muscle stimulation* is a widespread and generally recognized method and has been used for years in sports and rehabilitation medicine. In the sports and fitness field, one of the uses of EMS is as a supplement to conventional muscle training, in order to increase the efficiency of muscle groups and adapt physical proportions to the desired aesthetic results. EMS application goes in two directions. On the one hand, a targeted strengthening of musculature can be produced (activating application) and on the other hand a relaxing, resting effect can also be achieved (relaxing application).

### *Active application includes the following:*

- Muscle training to improve endurance performance and/or
- Muscle training to support the strengthening of certain muscles or muscle groups in order to achieve desired changes to body proportions.

### *Relaxing application includes the following:*

- Muscle relaxation in order to loosen up muscular tension Massage
- Improving muscular fatigue symptoms
- Accelerating muscle regeneration after high muscular performance (e.g. after a marathon).

Massage, through integrated massage technology, Digital TENS/EMS also offers the possibility of reducing muscular tension and combating fatigue symptoms using a program based on real massage in terms of sensation and effect. Using the positioning suggestions and program charts in this manual, you can determine the device setting fast and easily for the respective application (depending on the region of the body affected) in order to ensure the desired effect.

Through the two separately adjustable channels, the Digital TENS/EMS has the advantage of adapting the intensity of the pulses independently of each other to two parts of the body to be treated, for example in order to cover both sides of the body or ensure even stimulation of larger areas of tissue. The individual intensity setting of each channel also allows you to treat two different parts of the body at the same time, whereby it is possible to save time compared with individual sequential treatment.



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# Chapter 2 Important Information

*Use of the device does not replace medical consultation and treatment.*

*In the event of any type of pain or illness, you must therefore always first ask your doctor.*

## *WARNING*!

***In order to prevent any damage to health, we would urgently advise against using the Digital TENS/EMS in the following cases:***

- With any implanted electrical devices (such as pacemakers)

- If there are any metal implants
- When using an insulin pump
- In case of high fever (e.g. > 39°)
- In case of known or acute cardiac arrhythmia and other disorders in
- stimulus formation and conduction of the heart
- If suffering from attacks (e.g. epilepsy)

- If pregnant
- In case of cancer
- After operations where increased muscle contractions might impair the healing process
- Never use near the heart. Stimulation electrodes should never be placed anywhere on the front of the thorax (marked by ribs and breastbone), but above all not on the two large pectoral muscles. Here it can increase the risk of ventricular fibrillation and lead to cardiac arrest
- On the bony part of the cranium, near the mouth, throat or larynx
- Near the throat / carotid artery
- Near the genitals
- On acutely or chronically diseased (injured or inflamed) skin (e.g. in the event of painful and painless inflammation, reddening, skin rashes (e.g. allergies), burns, bruises, swellings, open wounds and wounds in the process of healing, on operation scars in the process of healing)
- In environments with high humidity such as in the bathroom or when having a bath or hower
- Do not use after consuming alcohol
- When a high frequency surgical device is connected at the same time

***Before using the device, you should consult with the doctor in charge of your treatment in the event of the following:***

- Acute diseases, especially if hypertension is suspected or actually exists, or blood-clotting disorders, tendency to thromboembolic diseases or in case of malignant new masses
- All skin diseases
- Chronic pain disorders which have not been clarified, regardless of the region of the body
- Diabetes
- All sensitivity disorders with reduced pain awareness (such as metabolic disturbances)
- Medical treatments carried out simultaneously
- Complaints arising as a result of the stimulation treatment
- Constant skin irritation as a result of prolonged stimulation at the same electrode point.



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## *IMPORTANT!*

*Use the Digital TENS/EMS solely:*

- On humans
- For the purpose for which it was developed and in the manner specified in these instructions for use. Any improper use can be hazardous.
- For external application.
- With the original accessory parts which are supplied and can be re-ordered, otherwise the warranty becomes null and void.

*PRECAUTIONARY MEASURES:*

- Always remove the electrodes from the skin with a moderate pull in order to avoid injury in the event of highly sensitive skin.
- Keep the device away from heat sources and never use it near (~1 m) short-wave or micro-wave equipment (e.g. mobile phones), as this may lead to unpleasant current spikes.
- Do not expose the device to direct sunlight or high temperatures.
- Protect the device from dust, dirt and humidity. Never submerge the device in water or other liquids.
- The device is suitable for private use.
- For reasons of hygiene, the electrodes should only be used on one person.
- If the device is not functioning properly, or if you start feeling unwell or there is any pain, stop the application immediately.
- To remove or move the electrodes, first switch off the device or the appropriate channel in order to avoid unwanted irritation.
- Never modify any electrodes (e.g. by cutting). This leads to a higher current density and can be dangerous (max. recommended output value for electrodes: 9 mA/cm2, an effective current density over 2 mA/cm2 requires greater attention).
- Do not use when asleep, when driving a vehicle or at the same time as operating equipment.
- Never use with any activities where an unforeseen reaction (e.g. increased muscle contraction despite low intensity) may be dangerous.



- Make sure that no metallic objects such as belt buckles or necklaces can come in contact with the electrodes during stimulation. If you wear any jewellery or piercings (e.g. belly piercing) near the application site, you must remove these before using the device as burning may otherwise occur at some points.
- Keep the device away from children to prevent any hazards.
- Do not confuse the electrode cables and contacts with your headphones or other devices, and do not connect the electrodes to other devices.
- Do not use this device at the same time as other equipment which sends electrical pulses to your body.
- Do not use it near any highly flammable substances, gases or explosives.
- Never use accumulators, always use the same types of battery.
- In the initial minutes, carry out the application sitting or lying down in order to avoid any un-necessary risk of injury in the rare event of a vagal reaction (feeling of weakness). If you start feeling weak, switch the device off immediately and put your legs up (approx. 5–10 minutes).
- It is not advisable to apply any enriching creams or ointments to the skin beforehand, as this greatly increases electrode wear or else unpleasant current spikes may occur here.

*Damage*:

- If the device is damaged, do not use it if you are in any doubt but rather
- Contact your dealer or the customer service address indicated.
- Check the device at regular intervals for signs of wear or damage. If you find any such signs or if the device was used improperly, you must bring it to the manufacturer or dealer before it is used again.
- Switch off the device immediately if it is defective or if is not working properly.
- Do not, under any circumstances, attempt to open or repair the device yourself! Only have repairs carried out by the customer service department or an authorized dealer. If these instructions are not heeded, the warranty becomes null and void.



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- The manufacturer assumes no liability for damage caused through improper or wrong use.

### *Information on ESD (Electrostatic Discharge)*

Please note that jacks marked with the ESD warning label must not be touched.
ESD protective measures:

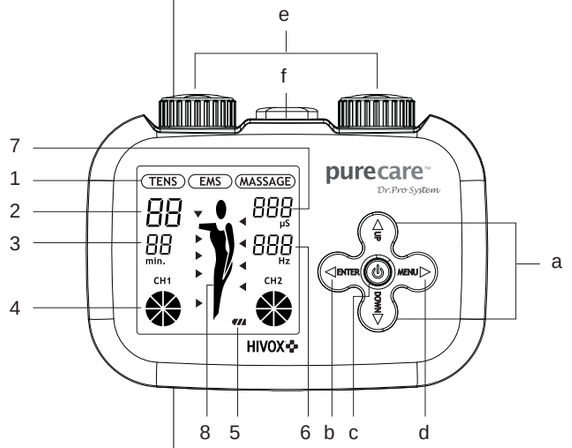
- Do not touch plugs/jacks marked with the ESD warning label with fingers!
- Do not touch plugs/jacks marked with the ESD warning label with handheld tools!

Further explanations on the ESD warming label, as well as possible training courses and their contents, are available on request from the customer service department.



# Chapter 3 Unit description

## *3.1 Description of components*




*Display (main menu):*

1. Mode Select
2. Program Number
3. Treatment Timer
4. Intensity Indicators
5. Low Battery Indicator
6. Frequency Display
7. Pulse Width Display
8. Body Map Indicator

*Keys:*

a. UP and DOWN selection keys
b. ENTER key
c. Power key
d. MENU key
e. Intensity adjust dial (CH1/CH2)
f. Pause/Stop key

*Accessories:*

- 2x connection cable (with 2 independently adjustable channels)
- 4x adhesive electrodes(45 x 45 mm)
- 1x belt clip



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## 3.2 Key functions

When a key is pressed, this is acknowledged by a signal tone in order to ensure that any unintentional pressing of a key is detected. This signal tone cannot be switched off.

### *Power key*

1. Hit briefly to switch on the device. If the key is held down for 10 seconds when switching on, the unit automatically switches off again.
2. Hold ON/OFF key down (approx. 3 seconds) to switch off the device.

### *UP and DOWN*

1. Select between (A) treatment program, (B) frequency and (C) treatment time.
2. The DOWN key is used to reduce pulse intensity for both channels during stimulation.

### *MENU*

1. Navigation between the submenus TENS, EMS and MASSAGE.
2. Return to (A) program selection window or (B) main menu.
3. Press and hole to unlock when keys are locked during stimulation.

### *ENTER*

1. Confirm selection and move to next step.

### *Intensity Adjust Dial*

1. When stimulating, rotate dials clockwise to increase intensity and vise versa
2. In manual setting mode (at P0), CH1 dial is used to adjust pulse width (μs) and CH2 dial is used to set frequency (Hz).

### *Pause/Stop*

1. Press to interrupt stimulation



# Chapter 4 Start-up

1. Remove the belt clip from the device, if attached.
2. Press on the battery cover at the back of the device and push it to the side.
3. Insert 3x AAA 1.5 V alkaline batteries. Ensure that you insert the batteries with the correct polarity as marked.
4. Replace the battery cover carefully.
5. Attach the connecting cable to the electrodes.
   *Note: The electrodes have a clip fastener to ensure easy connection.*
6. Insert the connecting cable connectors into the socket at the bottom of the device
7. Do not pull, twist or make any sharp angles in the cables.



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# Chapter 5 Program overview

## *5.1 Basic information*

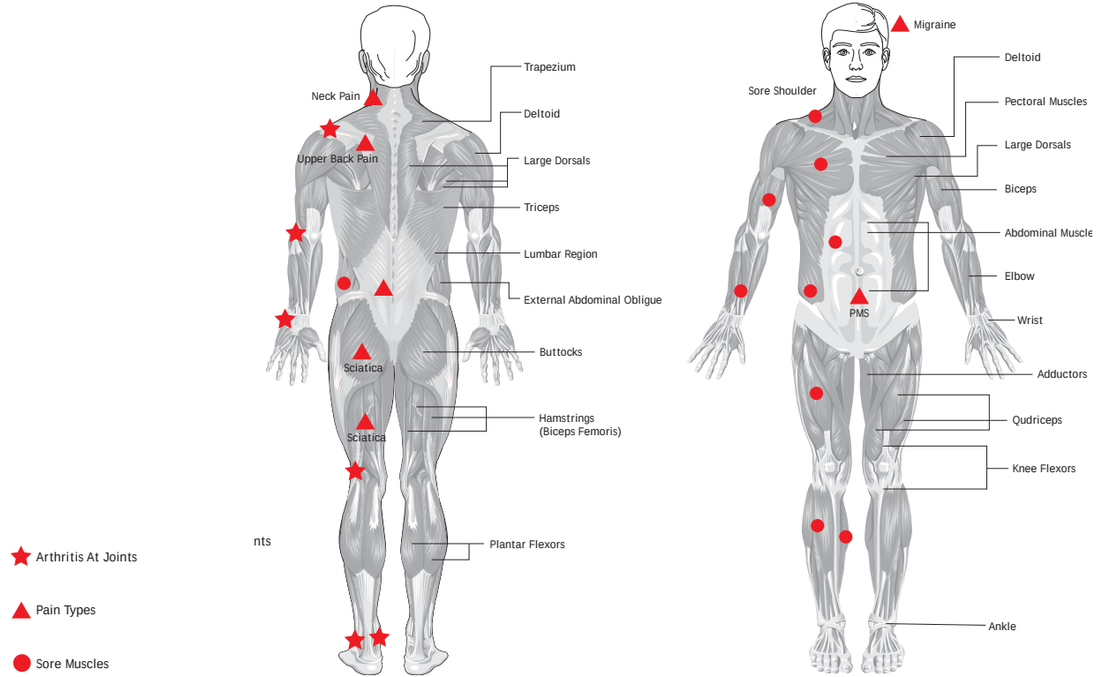
The Digital TENS/EMS unit has a total 30 programs:

- 10 TENS programs
- 10 EMS programs
- 10 MASSAGE programs

With all programs, you can set the length of application and (for each of the two channels) pulse intensity separately. Besides this, with TENS and EMS programs P0, you can also change the pulse frequency & pulse width of the individual cycles in order to adapt the stimulation effect to the structure of the site of application.

Cycles are the different sequences making up the programs. They automatically run one after the other and increase the efficacy of stimulation on different types of muscle fiber and combat pre-mature muscle fatigue. You will find the standard stimulation parameter settings and information on placing the electrodes in the following program charts for TENS, EMS and MASSAGE.





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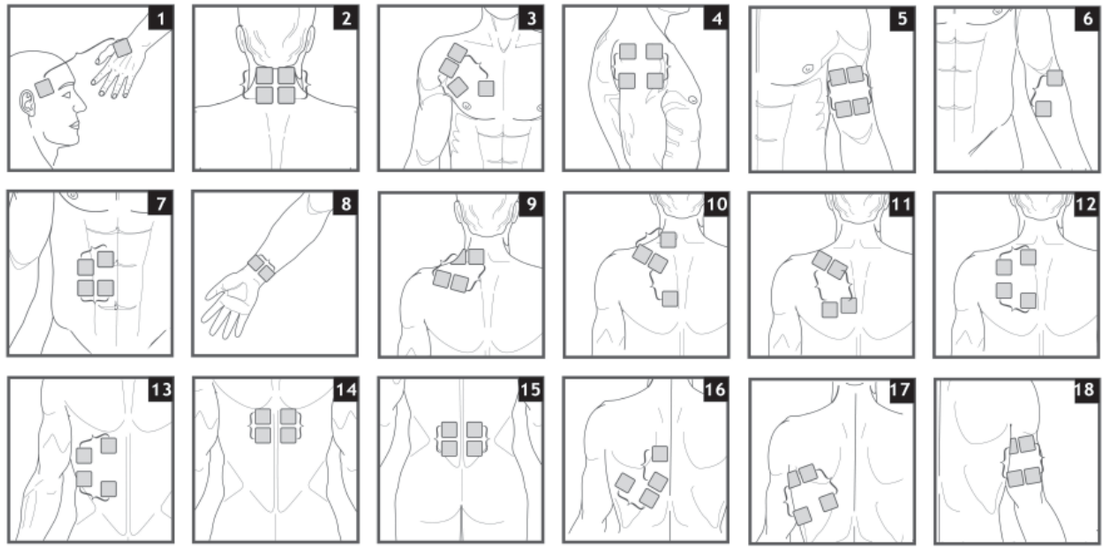




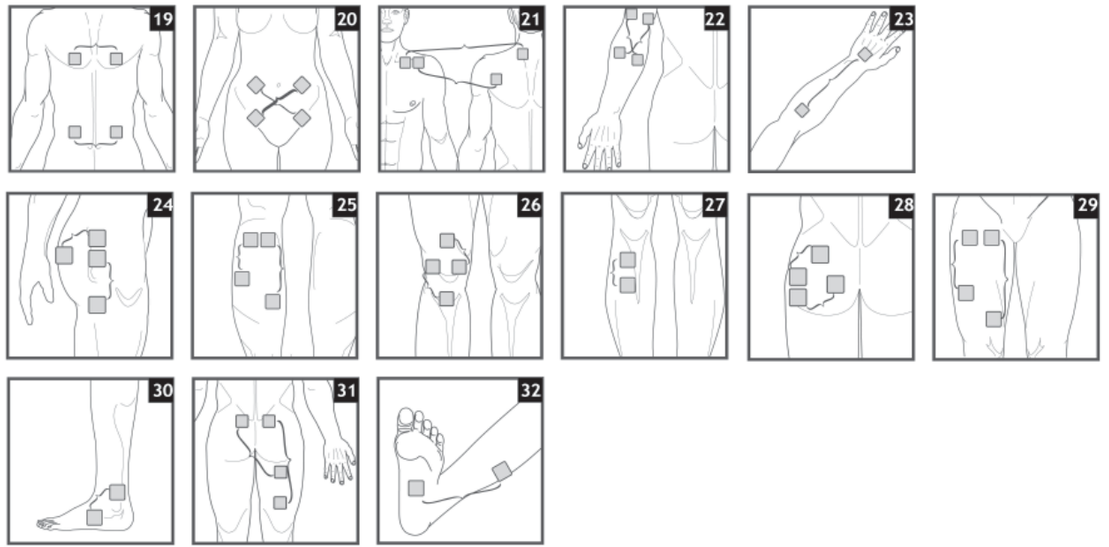




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# TENS PROGRAMS

| Prog. No | Reasonable Areas of Application Indicator | Possible Electrode Position | Cycle 1 / Cycle 5 | | | | Cycle 2 / Cycle 6 | | | | Cycle 3 / Cycle 7 | | | | Cycle 4 / Cycle 8 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec |
| 1 | Neck pain, tension headache | 02,05 | 250 | 4 | 30 | 0 | 250 | 4 | 30 | 0 | 250 | 5 | 30 | 0 | 250 | 5 | 30 | 0 |
| | | | 250 | 6 | 20 | 0 | 250 | 6 | 20 | 0 | 250 | 8 | 30 | 0 | 250 | 8 | 30 | 0 |
| 2 | Back pain | 10,11,12,13,14,19 | 250 | 6 | 30 | 0 | 250 | 6 | 30 | 0 | 250 | 8 | 20 | 0 | 250 | 8 | 20 | 0 |
| | | | 250 | 10 | 20 | 0 | 250 | 10 | 20 | 0 | - | - | - | - | - | - | - | - |
| 3 | Shoulder Pain | 04,09,21 | 250 | 2 | 10 | 0 | 250 | 4 | 8 | 0 | 250 | 6 | 6 | 0 | - | - | - | - |
| | | | | | | | | | | | | | | | | | | |
| 4 | Pain as result of rheumatoid arthritisn | See note | 250 | 60 | 20 | 0 | 250 | 70 | 20 | 0 | 250 | 80 | 30 | 0 | 250 | 80 | 30 | 0 |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5 | Lumber pain | 05 | 250 | 80 | 20 | 0 | 250 | 80 | 20 | 0 | 250 | 75 | 4 | 0 | 250 | 10 | 20 | 0 |
| | | | 250 | 70 | 4 | 0 | 250 | 65 | 4 | 0 | - | - | - | - | - | - | - | - |
| 6 | menstrual pain | 20 | 250 | 40 | 30 | 0 | 250 | 45 | 30 | 0 | 250 | 55 | 30 | 0 | 250 | 60 | 30 | 0 |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7 | Pain program I | See note | 250 | 4 | 30 | 0 | 250 | 4 | 20 | 0 | 250 | 6 | 30 | 0 | 250 | 6 | 20 | 0 |
| | | | 250 | 8 | 30 | 0 | 250 | 8 | 20 | 0 | 250 | 10 | 30 | 0 | 250 | 10 | 20 | 0 |
| 8 | Knee pain ankle joint pain, capsular injuries | 26,30 | 250 | 40 | 5 | 0 | 250 | 6 | 10 | 0 | 250 | 50 | 5 | 0 | | | | |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - |
| 9 (Burst) | pain program II | See note | 250 | 75 | 0.25 | 0.25 | 250 | 2 | 0.5 | 0 | - | - | - | - | - | - | - | - |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 (Burst) | Pain program III | See note | 250 | 100 | 0.25 | 0.25 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

On-Time (sec.) = Cycle switch-on time in seconds (contraction) -
Off-Time (sec.) = Cycle switch-off time in seconds (relaxation)
Note: Electrode position is supposed to surround the treated area. With painful muscle groups, the electrodes are grouped round the muscle affected. In case of joint pain, the joint on the front/rear side of the joint and, if electrode distances permit, on the right and left sides of the joint, should be surrounded with electrodes. Minimal electrode distance should not be less than 5 cm and not exceed 15 cm. Burst programs are suitable for all sites which should be treated with an alternating signal pattern (to ensure minimum habituation).



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# EMS Programs

| Prog. No | Reasonable Areas of Application Indicator | Possible Electrode Position | Cycle 1 / Cycle 5 | | | | Cycle 2 / Cycle 6 | | | | Cycle 3 / Cycle 7 | | | | Cycle 4 / Cycle 8 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec |
| 1 | Neck Pain, Tension, Headache | 04,09,21 | 250 | 30 | 5 | 1 | 250 | 10 | 15 | 1 | 250 | 50 | 5 | 1 | - | - | - | - |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2 | Middle and lower trapezius muscle, lattisimus dorsi muscle, neck muscles | 02,09,10,11,12,16,17 | 250 | 4 | 30 | 1 | 250 | 4 | 20 | 1 | 250 | 5 | 30 | 1 | 250 | 5 | 20 | 1 |
| | | | 250 | 6 | 30 | 1 | 250 | 6 | 20 | 1 | - | - | - | - | - | - | - | - |
| 3 | Back musclature near spinal column, prog. 1 | 14,15,19 | 250 | 2 | 10 | 1 | 250 | 4 | 10 | 1 | 250 | 6 | 10 | 1 | - | - | - | - |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4 | Front and back upper arm musculature (including biceps), front and back lower arm musculature | 05,06,18,22 | 250 | 4 | 30 | 1 | 250 | 4 | 30 | 1 | 250 | 4 | 30 | 1 | 250 | 5 | 30 | 1 |
| | | | 250 | 5 | 30 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| 5 | Straight and transverse abdominal musculature | 07 | 250 | 6 | 15 | 1 | 250 | 8 | 15 | 1 | 250 | 10 | 15 | 1 | - | - | - | - |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6 | Back musculature near spinal column, Prog. II | 14,15,19 | 250 | 2 | 20 | 1 | 250 | 2 | 20 | 1 | 250 | 1 | 30 | 1 | 250 | 1 | 30 | 1 |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7 | Back musculature near spinal column, Prog. III | 14,15,19 | 250 | 4 | 30 | 1 | 250 | 4 | 20 | 1 | 250 | 6 | 30 | 1 | 250 | 6 | 20 | 1 |
| | | | 250 | 8 | 30 | 1 | 250 | 8 | 20 | 1 | - | - | - | - | - | - | - | - |
| 8 | Posterior musculature | 28 | 250 | 20 | 5 | 1 | 250 | 6 | 5 | 1 | 250 | 30 | 5 | 1 | - | - | - | - |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 (Burst) | Front and back upper thigh musculature | 29 | 250 | 20 | 5 | 1 | 250 | 6 | 8 | 1 | 250 | 25 | 5 | 1 | - | - | - | - |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 (Burst) | Front and back lower thigh musculature | 25,27 | 250 | 25 | 5 | 1 | 250 | 6 | 8 | 1 | 250 | 35 | 5 | 1 | - | - | - | - |
| | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |





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# Massage Programs

| Prog. No | Reasonable Areas of Application Indicator | Cycle 1 / Cycle 5 | | | | Cycle 2 / Cycle 6 | | | | Cycle 3 / Cycle 7 | | | | Cycle 4 / Cycle 8 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec | Width (μs) | Frequency (Hz) | On time Sec | Off Time Sec |
| 1 | Tap and grasp massage | 250 | 8 | 60 | - | 250 | 60 | 250ms | 250ms | 250 | 15 | 60 | - | 250 | 60 | 250ms | 250ms |
| | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2 | Knead and grasp massage | 250 | 110 | 60 | - | 250 | 70 | 250ms | 250ms | 250 | 80 | 250ms | 250ms | 250 | 90 | 60 | - |
| | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3 | Tap massage | 250 | 5 | 15 | 0 | 250 | 10 | 15 | 0 | 250 | 15 | 15 | 0 | 250 20~80~20HZ | | | |
| | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4 | Side of hand/pressing massage | 250 | 20 | 5 | 0 | 250 | 30 | 5 | 0 | 250 | 40 | 5 | 0 | 250 | 50 | 5 | 0 |
| | | 250 | 60 | 5 | 0 | 250 | 75 | 5 | 0 | 250 | 90 | 5 | 0 | 250 | 110 | 5 | 0 |
| 5 | Side of hand/pressing massage | 250 | 20 | 60 | 0 | 250 | 30 | 60 | 0 | 250 | 40 | 60 | 0 | 250 | 50 | 60 | 0 |
| | | 250 | 60 | 60 | 0 | 250 | 75 | 60 | 0 | 250 | 90 | 60 | 0 | 250 | 110 | 60 | 0 |
| 6 | Vibratory massage | 20Hz 40μs~250μs~40μs200 | | | | 8 | 30 | 0 | - | - | - | - | - | - | - | - | |
| | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7 | Tap massage (switch between electrodes) | 250 | 6 | - | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8 | Massage jet (switch between electrodes) | 250 | 25 | - | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 | Pressure massage jet (switch between electrodes) | 250 | 60 | - | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | Combination program (switch between electrodes) | 250 | 100 | - | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Electrodes must be placed so that they surround the muscle segments in question. For optimal effect, electrode distance must not be greater than approx. 15 cm. The electrodes should not be applied to the anterior wall of the thorax, i.e. never massage the left or right large pectoral muscle.





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## 5.2 Information on placing the electrodes

For the desired success of any stimulation application, it is important that electrodes are placed sensibly. We advise you to coordinate with your doctor regarding the best electrode positions for your intended field of application. The electrode positions suggested inside the cover (Figs. 1– 28) serve as a guide. The following applies when choosing electrode positions:

### *Electrode distance*

The greater the electrode distance which is selected, the greater will be the volume of tissue that is stimulated. This applies to the area and the depth of the tissue volume. At the same time, however, the strength of tissue stimulation decreases as the electrode distance becomes greater, which means that, if a greater electrode distance is chosen, a greater volume is stimulated, but stimulation is weaker. To increase stimulation, pulse intensity must then be increased.

The following guideline holds when selecting electrode distances:



• Most reasonable distance: approx. 5 –15 cm

• Below 5 cm, it is mainly surface structures which are strongly stimulated

• Over 15 cm, largearea and deep structures are stimulated very weakly

### *Electrode relationship to muscle fiber orientation*

Choice of current flow direction must be adapted to the muscle fiber orientation according to the desired muscle layer. If surface muscles are to be reached, the electrodes must be placed parallel to the fiber orientation. If deep tissue layers are to be reached, the electrodes must be placed crosswise to the fiber orientation. The latter arrangement can, for example, be achieved via the cross electrode arrangement.

*Note the color-code of the cables and the channels. The white cable belongs to channel CH1 and the grey cable to channel CH2.*

• In the treatment of pain (TENS) using the Digital TENS/EMS device with its 2 separately controllable channels and in each case 2 adhesive electrodes, it is advisable to either position the electrodes of one channel so that the pain spot lies between the electrodes or else you position one electrode directly on the pain spot and the other at least 2 – 3 cm away.

The electrodes of the second channel can be used to treat other pain spots simultaneously or else, however, together with the electrodes of the first channel, to surround the pain area (opposite). A cross arrangement is again advisable here.

• Massage function tip: always use all 4 electrodes to ensure optimal treatment.

• In order to extend the durability of the electrodes, use them on clean skin which is as free as possible from hair and grease. If necessary, clean the skin with water before application and remove the hair.

• If an electrode becomes detached during the application, the pulse intensity of both channels goes to the lowest setting. Press the ON/OFF key to enter pause mode, reposition the electrode and continue application by pressing the ON/OFF key again and setting the required pulse intensity.



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# Chapter 6 Applications

Fig.1

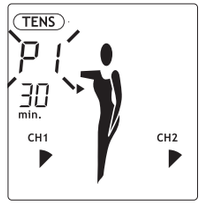

Fig.2

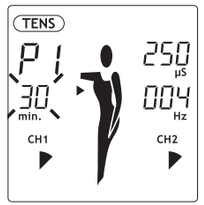

Fig.3

## 6.1 Advice

* If the device is not used within 3 minutes, it switches off automatically (automatic switch-off function). When it is switched on again, the LCD main menu screen appears, with the last used submenu flashing.
* If an admissible key is pressed, there is one short beep. If an inadmissible key is pressed, there are two short beeps.

## 6.2 Procedure for TENS, EMS and MASSAGE programs P1–P9 (quick start)

1. From the program charts, select a program that is suitable for your purpose.
2. Place the electrodes in the area selected and connect these to the device. The corresponding positioning suggestions may help you here.
3. Press the ON/OFF key to switch on the device.
4. Press MENU and navigate through the sub-menus (TENS/EMS/MASSAGE) and confirm your selec-tion with ENTER (Fig. 1).
5. Using the UP/DOWN keys, select the program you want and confirm with ENTER (Fig. 2).
6. Using the UP/DOWN keys, select the total treatment time and confirm with ENTER. The device is in stand by status (Fig. 3).

Fig.4

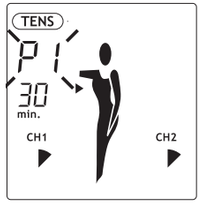

Fig.5

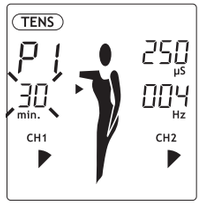

Fig.6

7. Press ON/OFF to start the stimulation treatment (Fig. 4). The operation status display starts to change (Fig. 5).

8. Select the pulse intensity(Fig. 6) which is the most comfortable for you by pressing the key CH1+/CH 2+. The pulse intensity display adapts accordingly.

9. All keys including intensity dials will be locked 20 seconds after last action done.



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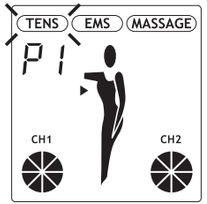

Fig.1

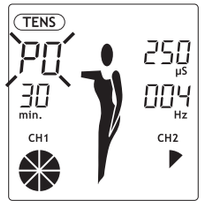

Fig.2

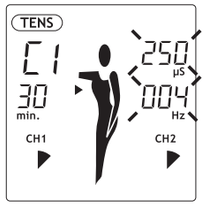

Fig.3

## *6.3 Procedure for TENS/EMS program P0 (Only)*

Program P0 is preset program which you can also customize. Here you can set pulse frequency and pulse width.

1. From the program charts, select a program that is suitable for your purpose.

2. Place the electrodes in the area selected and connect these to the device. The corresponding position suggestions may help you here.

3. Press the ON/OFF key in order to switch on the device.

4. Press MENU and navigate through the submenus (TENS/ EMS/MASSAGE) and confirm your selection with ENTER (Fig. 1).

5. Using the UP/DOWN keys, select the program you want and confirm with ENTER (Fig. 2).

6. Using intensity dials to select the frequency and pulse width you want for Cycle 1 (Hz) and confirm with ENTER (Fig. 3). Repeat this process for all subsequent cycles.

7. To terminate frequency setting, set the frequency (Hz) after the cycle last required “--0” and press ENTER. All frequency settings of subsequent cycles are then automatically set at “0” and thus not taken into account.

*Tip: Hold down the ENTER key for 2 seconds in order to skip frequency settings and access ‘treatment time setting’. In the event that you need all 8 cycles, you can also press ENTER for 2 seconds to terminate selection of frequency settings.*



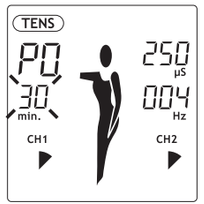

Fig.4

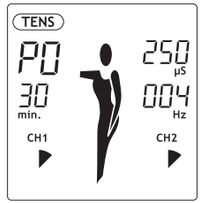

Fig.5

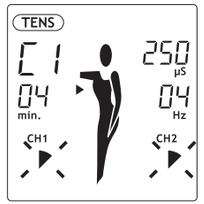

Fig.6

8. Using the UP/DOWN keys,select the desired treatment time and confirm with ENTER(Fig. 4).

9. The device is standing by for stimulation (Fig. 5).

10. Press Power to start the stimulation treatment. The operation status display starts to flash (Fig. 6).

11. Adjust the pulse intensity which is the most comfortable for you by rotating intensity adjust dials (CH 1/CH 2). The pulse intensity display adapts accordingly with number shown (Fig. 7).

*Note: Your customized program settings are stored and automatically retrieved when you select it next.*

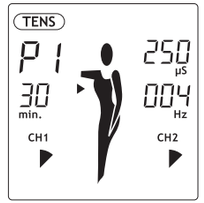

Fig.7



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## 6.4 Changes to the settings

### *Automatic Key Lock Function*

To avoid accidentally change of intensity, PL-982 integrated auto key lock for safety purpose. Before making any change during stimulation, press and hold MENU for 3 seconds to unlock.

### *Changing intensity (during stimulation)*

- CH1 and CH2: Press corresponding channel dial and rotate dial to increase/reduce intensity. After intensity set, press the dial again to prevent further change of intensity or it will automatically lock after 20 seconds.
- DOWN key: the intensity of both channels is reduced.

### *Interrupting stimulation*

Press the pause key which locates between CH1 and CH2 intensity adjust dial. To resume stimulation, press Power key and adjust intensity accordingly using dials.

### *Switching off a complete channel*

Press and hold corresponding channel intensity adjust dial (key unlocked). Graphic of corresponding channel disappears. To switch back on, unlock the keys and press and hold the dial until the graphic appears.

### *Changing application (completely or single parameters)*

1. Interrupt stimulation by pressing Pause key
2. Press MENU to return to previous menu
3. Set required parameters. Confirm with ENTER. Press ON/OFF to continue stimulation.



## 6.5 Doctor's Function

Doctor's Function is a specific setting to allow you to call up your specific personal program even much easier.

Your individual program setting is immediately retrieved in stand by status when you switch on and is activated by simply pressing the ON/OFF key. Settings for this individual program may, for example, be on the advice of your doctor.

With the Doctor's Function, only pulse intensity can be changed during stimulation treatment. All other parameters and programs of the Digital TENS/EMS are blocked in this case and cannot be modified or called up.

### *Activating/De-activate the Doctor's Function:*

1. Select your program and appropriate settings from the list.
2. To activate or de-activate by pressing and hold Power and MENU keys simultaneously for 5 seconds. A long signal tone confirms Doctor's Function activate status.



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# Chapter 7 Cleaning and storage

## *Adhesive electrodes:*

- In order to ensure that the electrodes adhere for as long as possible, they should be cleaned carefully with a damp, lint-free cloth.
- After use, stick the electrodes onto the backing film.

## *Cleaning the unit:*

- Remove the batteries from the device every time you clean.
- Clean the unit after use with a soft, slightly moistened cloth. In case of more extreme soiling you can also moisten the cloth with mild soapy water.
- Ensure that no water penetrates into the device. If this should ever happen, only use the device again once it is completely dry.
- Do not use any chemical cleaners or abrasive agents for cleaning.

## *Storage:*

- Remove the batteries from the unit if you are not going to use it for a longer period. Leaking batteries can damage the unit.
- Do not make any sharp kinks in the connecting leads or electrodes.
- Detach the connecting cable from the electrodes.
- After use, stick the electrodes onto the backing film.
- Store the device in a cool, well-ventilated place.
- Never place any heavy objects on the device.



# Chapter 8 Disposal

Used, fully discharged batteries must be disposed of in a specially labeled collection container, at toxic waste collection points or through an electrical retailer. You are under legal obligation to dispose of batteries correctly.

Note: You will find these markings on batteries containing harmful substances: Pb=battery containing lead, Cd=battery containing cadmium, Hg=battery containing mercury.

Please dispose of the device in accordance with the directive 2002/96/EC-WEEE (Waste Electrical and Electronic Equipment). If you have any queries, please refer to the local authorities responsible for waste disposal.

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# Chapter 9 Problems and solutions

*The device does not switch on when the ON/OFF button is pressed. What should I* do?

1. Make sure that the batteries have been inserted correctly and have contact.
2. Change the batteries if necessary.
3. Contact customer service.

*The electrodes are detaching themselves from the body. What should I do?*

1. Clean the adhesive surface of the electrodes with a damp, lint-free cloth. Then let them dry in the air and attach them again. Should the electrodes still not adhere firmly, they must be replaced.
2. Before each application, clean the skin, avoiding using any skin cream or oils before treatment. Shaving can increase adhesion of the electrodes.

*The device is giving out abnormal signal tones during treatment. What should I do?*

1. Look at the display. Is any channel flashing? ‡ Interrupt the program by pressing the ON/OFF button. Make sure that the connecting leads are properly connected to the electrodes. Make sure that there is a firm contact between the electrodes and the treatment area.
2. Make sure that the plug of the connecting lead is firmly connected to the device.
3. If the signal tones do not stop and the channel is flashing, change the connecting cable.
4. The display shows a flashing battery signal. Renew the batteries.



*There is no noticeable stimulation. What should I do?*

1. If a warning signal sounds, go through the steps described above.
2. Press the ON/OFF key to start the program again.
3. Check that the electrodes are positioned properly and make sure that the adhesive electrodes are not overlapping.
4. Increase pulse intensity in stages.
5. The batteries are almost empty. Replace these.

*You are aware that the electrodes feel uncomfortable. What should I do?*

1. The electrodes are badly positioned. Check positioning and if necessary reposition the electrodes.
2. The electrodes are worn. Due to the fact that current distribution can no longer be guaranteed evenly over the entire surface, these may lead to skin irritation. You must therefore replace these.

*The skin in the treatment area becomes red. What should I do?*

Stop treatment immediately and wait until the skin has returned to normal. If any redness beneath the electrode soon disappears, this is not dangerous and is due to the increased circulation which has been stimulated locally. If, however, the skin irritation remains and there is possibly itching or inflammation,

Please consult your doctor before further use. It may possibly be caused by an allergy to the adhesive surface.

*The belt clip is not secure. What should I do?*

If the clip is fastened to the belt and only then connected to the device, there is not optimal hold. You should therefore take the device in your hand. Position the belt clip on the back of the device. You will notice the correct position of the clip when you hear it click into position. Now secure the device with belt clip on the belt again.



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# Chapter 10 Technical Specifications

Name and model: PL-982

Initial curve shape: biphasic square-wave pulse

Pulse duration: 40– 300 μs

Pulse frequency: 1–120 Hz

Output voltage: max. 90 Vpp (at 500 Ohm)

Output current: max. 180 mApp (at 500 Ohm)

Power supply: 3x AAA batteries

Treatment time: adjustable from 5 to 90 minutes

Intensity: adjustable from 0 to 15

Operating conditions:10°C~40°C (50°F~104°F) with a relative humidity of 30~85%

Storage conditions -10°C~50°C (14°F~122°F) with a relative humidity of 10~95%

Explanation of symbols: Application part type BF

Caution! Read the instructions for Use.



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